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ABSTRACT OF THE DISCLOSURE

In a chemical decontamination method of chemically decontaminating radioactive nuclides from a metallic material, oxalic acid and hydrazine are injected as a reductive decontaminating agent into water that is in contact with the metallic material. Injection of the hydrazine is stopped after a cation resin arranged in a circulation line connected to the metallic material breaks, and at least the oxalic acid and the hydrazine in the reductive decontaminating agent are decomposed using a decomposing catalyst.